Chapter 8 · Introduction to Trigonometry

Part 11 · The Escape Challenge

Five gates, each a calculation. Each gives you one digit. Collect all five to unlock the exit code.

🔒 GATE 1 — The Ratio Gate

Evaluate $\sin 30° \times 2$.

Digit: ☐

🔒 GATE 2 — The Table Gate

Evaluate $\tan^2 45° + 3$.

Digit: ☐

🔒 GATE 3 — The Identity Gate

Evaluate $\sin^2 \theta + \cos^2 \theta$, for any θ.

Digit: ☐

🔒 GATE 4 — The Pythagoras Gate

In a right triangle with legs 3k and 4k, the hypotenuse is 5k. Evaluate $5 \cos^2 0°$.

Digit: ☐

🔒 GATE 5 — The Standard Angle Gate

How many angles are listed in Table 8.1, from 0° to 90°?

Digit: ☐

EXIT CODE: ☐ ☐ ☐ ☐ ☐

You now hold six ratios, one table, and three identities — enough to turn any right triangle into a solvable puzzle of angles and sides. □□